

RECEIVING APPARATUS, TRANSMITTING APPARATUS, AND  
COMMUNICATION SYSTEM

ABSTRACT OF THE DISCLOSURE

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A receiving apparatus and transmitting apparatus capable of reliably transmitting and receiving a high speed optical signal and a communication system using the same, wherein provision is made of a transmitting apparatus comprising a conversion circuit for converting serially input data to a plurality of bits of parallel data given predetermined information and an LED array comprised of LED units of at least a number corresponding to the number of bits of the parallel data from the conversion circuit arranged in an array, wherein the LED units are controlled in light emission in parallel based on bit information of corresponding parallel data to emit information light dispersed in a spatially predetermined range, and of a receiving apparatus having a photo-diode array comprised of a plurality of photo-diodes for emitting electric signals of levels in accordance with amounts of light received arranged in an array, wherein the photo-diodes output electric signals in parallel, for selecting information in accordance with the information light based on the plurality of electric signals output

in parallel from the photo-diode array, converting the selected parallel data to serial data, and outputting the same.

1. The first step is to read the data from the photo-diode array. This is done by reading the data from the array in parallel. The data is then converted to serial data and outputted. This is the same process as the one described in the previous paragraph.